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Modified Tree Band to Foil Cone-Harvesting Squirrels

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ABSTRACT: How to make and install an expandable aluminum tree band that will prevent cone harvesting by squirrels.

Protection of tree seed crops against squirrels requires both horizontal separation of trees and some type of barrier between the ground and the lower branches. One of the simplest and most effective barriers is a wide metal band around the bole, installed 6 feet above the ground. Many different band designs have been tried, but a distressing number have failed. Wily squirrels regularly use protruding nails for ladders to cross the barriers. Improper installation sometimes prevents expansion of the band as the tree grows, so that the band tears away from the nails.

Recent observations at several seed production areas in California have demonstrated that the present type of expandable tree band has failed to prevent cone harvesting by squirrels. Both the California gray squirrel (Sciurus griseus griseus Ord.) and the pine squirrel (Tamiasciurus spp.) were seen cutting cones in trees which had 18-inch wide bands on the trunks. Cone counts showed that on some banded trees as many as 70 percent of the 1963 cones have been destroyed by squirrels. Although the existing tree bands may act as a limited deterrent to tree-climbing squirrels, the protection afforded does not justify their cost.

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For complete protection, a tree band should have the following characteristics:

1. It should be wide enough to prevent the animal from scrambling across.
2. Any nails or other protruberances should be separated by at least 12 inches of smooth surface and should not stand out enough for a good foothold.
3. A mechanism for expansion should be provided to permit radial stem growth for several years without necessitating manual readjustment of the band.
4. The band material should be lightweight, easily cut and formed, yet stiff enough to hold its shape and maintain a springy tension.

We have recently designed a band which meets these requirements. It is simple in construction, requiring only an aluminum strip plus two 16-penny nails. The band should expand for several years before manual readjustment is needed.

Details of the construction of the band are illustrated in figures 1 through 8. Aluminum coiled sheet, .016 inch thick (B&S Gauge 26) meets the criterion for material. It is available in 300-pound rolls, 18-inch width. Rolled "valley" aluminum in the same width and thickness also can be used. Valley aluminum is usually sold in 50-foot rolls. Two slots which are required can be cut easily with a special "double-cutting" tool familiar to the sheet metal trade. One satisfactory brand is listed as "Klenks Double-Cut Snips."[1] It is not necessary to begin the cut at the edge of the aluminum strip; a slot can be started at any point by simply thrusting the pointed tip of the cutting blade through the surface of the sheet. The snips can be obtained from Slakey Brothers Sacramento, Inc., 1400 North C Street, Sacramento, California, or from other hardware suppliers, for less than $6.

If the band is mounted properly it should prevent all but the most ingenious squirrel from climbing the tree.

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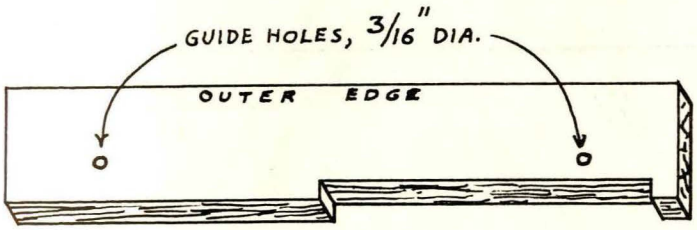
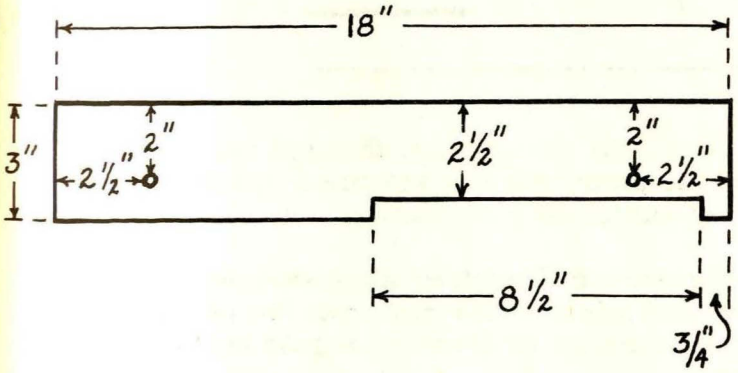
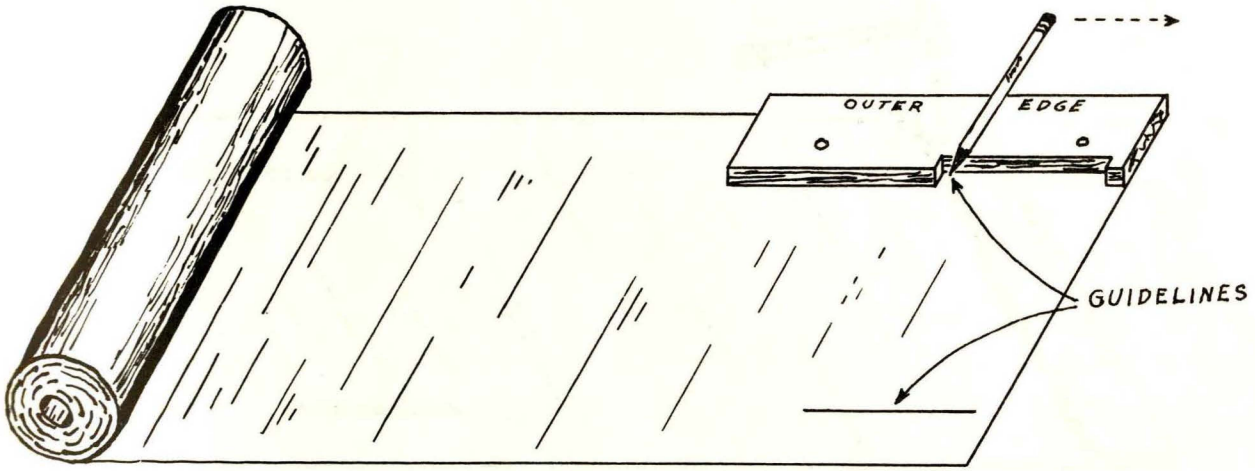
[1]Use of proprietary or brand names in Station publications is sometimes necessary to report factually on available data. The Station neither guarantees nor warrants the standard of the product, and use of the name implies no approval of the product to the exclusion of others which may also be suitable.





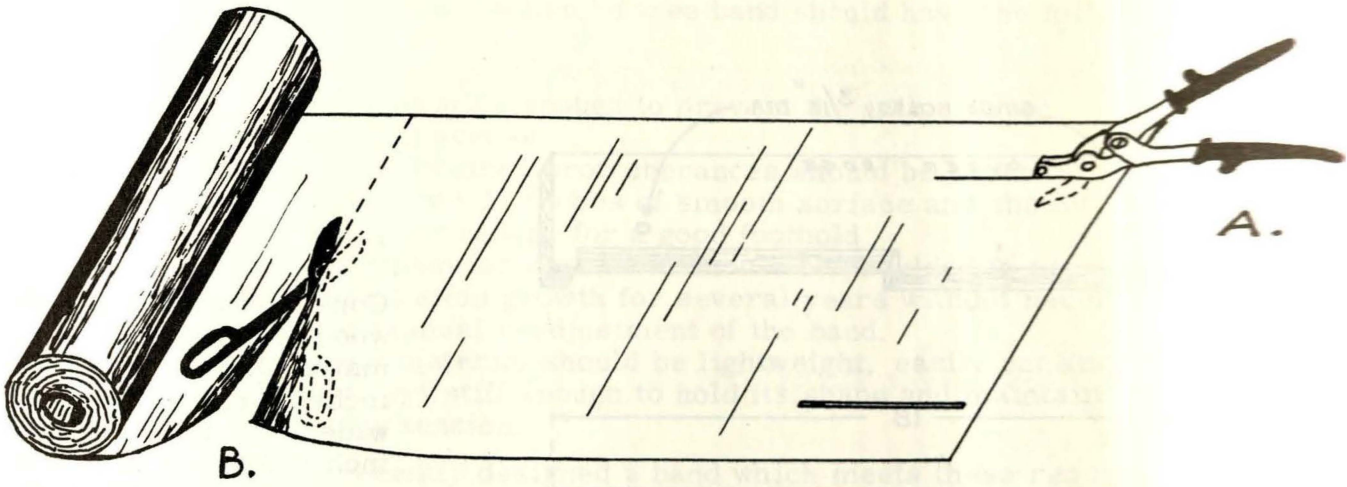
1

Construct a template of wood or other suitable material, exactly 18 inches long and 3 inches wide. Cut out the 8-1/2 inch inset, 1/2 inch deep as shown, starting 3/4 inch from the end of the template.



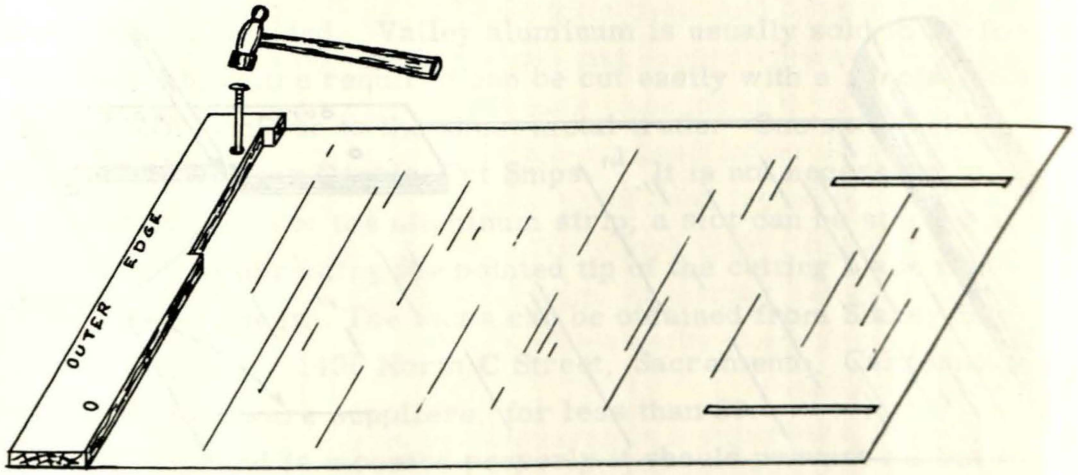
2

Unroll the aluminum. Place the template on the outer end as shown, lining up the outer edge with the edge of the metal sheet and the end with the end of the sheet. Mark 8-1/2 inch guidelines for the two slots along the inset in the template, with the template positioned in each case so that the inset is toward the center of the sheet.

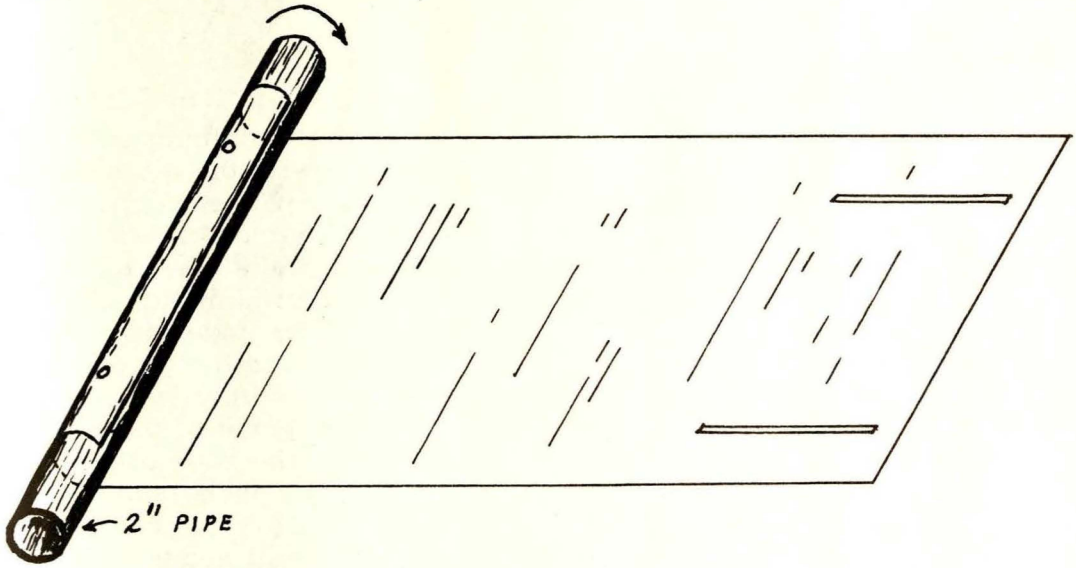


3 A. Thrust end of blade of slot cutting tool through the metal at the starting point of the guideline and cut the 8-1/2 inch slots. Aluminum valley material cuts easily.

B. Measure and cut the correct length of aluminum strip for the tree band, allowing sufficient extra material for an easy 11 inch overlap (= circumference of tree at largest section covered, plus 11 inches).



4
Lay template on end opposite the slots, lining up outer edge with the end of the aluminum strip. Punch holes through the two guides with a 16 penny nail. After removing the template, work the nail around in the holes, enlarging them slightly so that the nail will move freely without binding.



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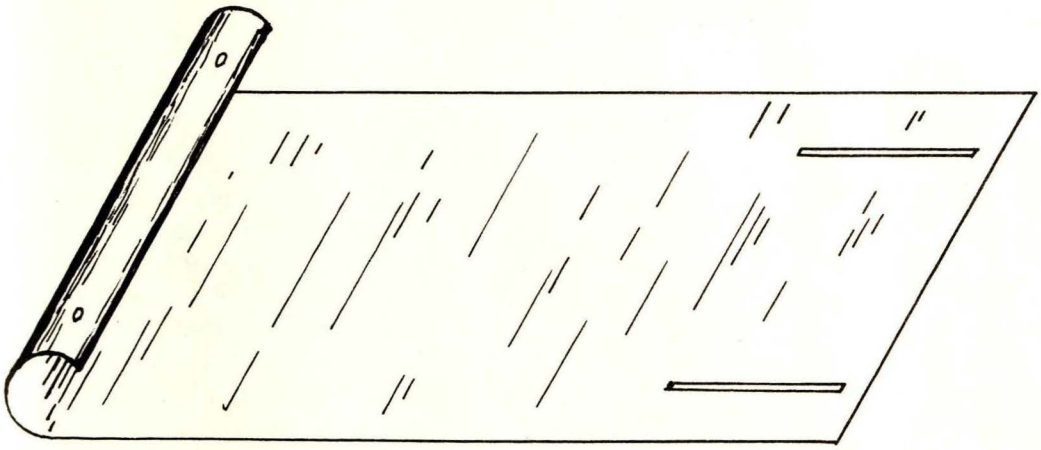
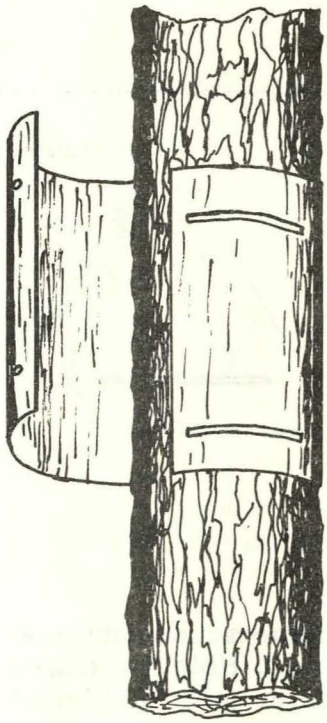
Lay a short length of 2-inch diameter pipe across the end of the aluminum sheet containing the nail holes. Hold the edge firmly against the pipe and roll toward the center one complete turn.



6

When the pipe is removed, the end of the strip will remain cupped. This will allow the nail holes to stand out 2 inches from the underlapping portion containing the slots when the band is installed on a tree. The edge will then rest against the underlap as shown in the following illustrations.



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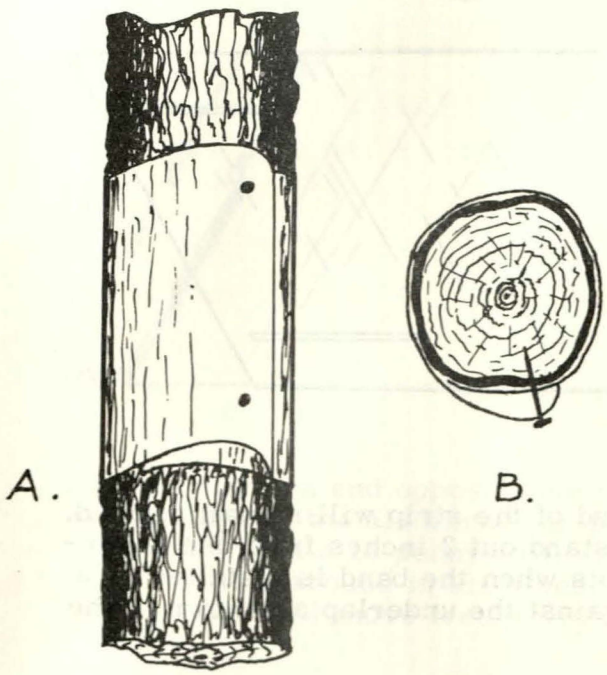
Installation of Band

Wrap the aluminum band around the tree with the slots on the inside lap. Carefully position the cupped end so the nail holes are opposite the slots. Insert a 16 penny aluminum nail through each hole and its underlying slot. Drive the nails into the tree until the heads are within 1/4 inch of the cupped surface of the band. This will keep the edge of the band against the underlapping surface and will allow for radial growth up to the nail heads, i. e., about 2 inches. As the tree grows, the slots will permit expansion of the band without binding. The diameter of the nails should be slightly larger than the slot to maintain tension during expansion.



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A. Aluminum band installed on tree. When this method is used, a smooth surface results, with no projecting nails or slots to serve as ladders for squirrels. The slots are 13 inches apart, a distance considered too great for climbing animals to cross after they are uncovered by tree expansion.

B. Cross section of tree, illustrating shape of band and position of nails. The space between the overlapping portions will diminish each year.